

Work Order ID 102947

June-12-13 9:17:15 AM

102947

Page 1

Item ID: D4011-5

Accept

N900040100

Setup

Start

NS1

Revision ID:

Stop

NS2

Item Name: Clamp, Short

Start Date: 6/11/13

Start Qty: 16.00

16

Cust Item ID:

Required Date: 6/11/13

Req'd Qty: 16.00

16

Customer:

Reference:

Approvals:

Process Plan: ML5

Date: 13-06-13

Tooling:

Date:

Run

Start

NR1

QC:

Date:

SPC (Y/N):

Date:

Stop

NR2

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
Draw Nbr	Revision Nbr								

D4011 | B

100

100

Waterjet

FLOW CNC Waterjet

304 - 080

PURCHASING

Memo

0.00

16 0 13-06-30

1-Cut as per Dwg

Dwg Rev: B

Prog Rev: B

2-Deburr if necessary

110

QC2- Inspect parts off machine FAI/FAIB

0.00

110

QC

Quality Control

Memo

0.00

16 0 Ae 13-06-30

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____

Date: _____

Work Order update only

Work Order: _____	DISPOSITION	AGAINST DEPARTMENT/PROCESS					
Part No. _____	Rework Scrap Use-as-is Suspected Unapproved	Skid-tube Machining Thermoforming Large Fab	Crosstube Small Fab Finishing Composite	Water Jet Prod. Eng. Coor. Rec/Store/Packaging Supplier	Engineering Quality Other		
NCR No. _____							

Root Cause	Date	Step	Qty	Description of work order update or non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Design									
Doc/Data									
Equip/Tooling									
Handling/Pre									
Material									
Operator									
Offset/Setup									
Process									
Supplier									
Training									
Transport									
Unapproved									

FAULT CATEGORY

Landing Gear	General														
	Bending	Bend	Folio/Program	Outside Dimensions	Pressure/Forced										
	Centre Not Concentric	BOM/Route	Grain	Over/Under tolerance	Set-up										
	Cracks	Broken/Damage/Defect	Hardware	Part Incorrect	Temperature/Cure										
	Crimp/Kink/Ripple/Wave	Burr	Inspection Incomplete/Unqualified	Part Lost/Missing	Weld										
	Cuffs	Contamination	Instructions Incomplete/Unclear	Part Moved	Wrong Stock Pulled										
	Crushing	Countersink	Misaligned/off center	Positioned Wrong											
	Heat Treat	Cut Too Short	Mislabeled	Power Loss/Surge	Other										
	Inspection Strip in Tube	Drawing	Misread												
	Marks/Chatter	Drill Holes	Off-set												
	Turning Sequence	Finish	Out of Calibration												
	Wave/Twist in Tube	Fit/Function	Out of Sequence												

Work Order ID 102947

102947

Page 2

June-12-13 9:17:15 AM

Item ID: D4011-5

Accept

N900040100

Setup

Start

NS1

Revision ID:

Stop

NS2

Item Name: Clamp, Short

Start Date: 6/11/13 Start Qty: 16.00

16

Cust Item ID:

Required Date: 6/11/13 Req'd Qty: 16.00

16

Customer:

Reference:

Approvals: Process Plan: _____

Date: _____

Tooling: _____

Date: _____

Run

Start

NR1

QC: _____

Date: _____

SPC (Y/N): _____

Date: _____

Stop

NR2

Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Tool ID

Tool #

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

120

QC8- Inspect parts - second check

0.00

120

QC

Memo

0.00

⑥ B-07-02

DAS
09
89

Quality Control

130

Form as per dwg

0.00

130

Brake NC

Memo

0.00

16

8/13/17

Brake NC

140

QC5- Inspect part completeness to step on W/O

0.00

140

QC

Memo

0.00

Quality Control

DAS
27

16
13-17

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only

Work Order: _____	DISPOSITION	AGAINST DEPARTMENT/PROCESS					
Part No. _____	Rework <input type="checkbox"/>	Skid-tube <input type="checkbox"/>	Crosstube <input type="checkbox"/>	Water Jet <input type="checkbox"/>	Engineering <input type="checkbox"/>		
NCR No. _____	Scrap <input type="checkbox"/>	Machining <input type="checkbox"/>	Small Fab <input type="checkbox"/>	Prod. Eng. Coor. <input type="checkbox"/>	Quality <input type="checkbox"/>		
	Use-as-is <input type="checkbox"/>	Thermoforming <input type="checkbox"/>	Finishing <input type="checkbox"/>	Rec/Store/Packaging <input type="checkbox"/>	Other <input type="checkbox"/>		
	Suspected Unapproved <input type="checkbox"/>	Large Fab <input type="checkbox"/>	Composite <input type="checkbox"/>	Supplier <input type="checkbox"/>			

Root Cause	Date	Step	Qty	Description of work order update or non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Design									
Doc/Data									
Equip/Tooling									
Handling/Pre									
Material									
Operator									
Offset/Setup									
Process									
Supplier									
Training									
Transport									
Unapproved									

FAULT CATEGORY

Landing Gear	General			
	<input type="checkbox"/> Bending	<input type="checkbox"/> Bend	<input type="checkbox"/> Folio/Program	<input type="checkbox"/> Outside Dimensions
	<input type="checkbox"/> Centre Not Concentric	<input type="checkbox"/> BOM/Route	<input type="checkbox"/> Grain	<input type="checkbox"/> Pressure/Forced
	<input type="checkbox"/> Cracks	<input type="checkbox"/> Broken/Damage/Defect	<input type="checkbox"/> Hardware	<input type="checkbox"/> Set-up
	<input type="checkbox"/> Crimp/Kink/Ripple/Wave	<input type="checkbox"/> Burrs	<input type="checkbox"/> Inspection Incomplete/Unqualified	<input type="checkbox"/> Temperature/Cure
	<input type="checkbox"/> Cuffs	<input type="checkbox"/> Contamination	<input type="checkbox"/> Instructions Incomplete/Unclear	<input type="checkbox"/> Weld
	<input type="checkbox"/> Crushing	<input type="checkbox"/> Countersink	<input type="checkbox"/> Misaligned/off center	<input type="checkbox"/> Wrong Stock Pulled
	<input type="checkbox"/> Heat Treat	<input type="checkbox"/> Cut Too Short	<input type="checkbox"/> Mislabeled	<input type="checkbox"/> Other
	<input type="checkbox"/> Inspection Strip in Tube	<input type="checkbox"/> Drawing	<input type="checkbox"/> Misread	
	<input type="checkbox"/> Marks/Chatter	<input type="checkbox"/> Drill Holes	<input type="checkbox"/> Off-set	
	<input type="checkbox"/> Turning Sequence	<input type="checkbox"/> Finish	<input type="checkbox"/> Out of Calibration	
	<input type="checkbox"/> Wave/Twist in Tube	<input type="checkbox"/> Fit/Function	<input type="checkbox"/> Out of Sequence	

Work Order ID 102947

June-12-13 9:17:15 AM

102947

Page 3

Item ID: D4011-5

Accept

N900040100

Setup Start

NS1

Revision ID:

Item Name: Clamp, Short

Stop

NS2

Start Date: 6/11/13 Start Qty: 16.00

16

Cust Item ID:

Required Date: 6/11/13 Req'd Qty: 16.00

16

Customer:

Reference:

Approvals:

Process Plan:

Date:

Tooling:

Date:

Run Start

NR1

QC:

Date:

SPC (Y/N):

Date:

Stop

NR2

Sequence ID/
Work Center ID

Operation
Description

ST451

Set Up/
Run Hours

Tool ID

Tool #

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

150

150

Packaging

Packaging

Memo

0.00

160

QC21- Final Inspection - Work Order Release

0.00

160

QC

Quality Control

Memo

0.00

160
SP
13-7-18

MLJ 13-07-19

MLJ 07-18

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____

Date: _____

Work Order update only

Work Order: _____	DISPOSITION	AGAINST DEPARTMENT/PROCESS							
Part No. _____	Rework <input type="checkbox"/>	Skid-tube <input type="checkbox"/>	Crosstube <input type="checkbox"/>	Water Jet <input type="checkbox"/>	Engineering <input type="checkbox"/>				
NCR No. _____	Scrap <input type="checkbox"/>	Machining <input type="checkbox"/>	Small Fab <input type="checkbox"/>	Prod. Eng. Coor. <input type="checkbox"/>	Quality <input type="checkbox"/>				
	Use-as-is <input type="checkbox"/>	Thermoforming <input type="checkbox"/>	Finishing <input type="checkbox"/>	Rec/Store/Packaging <input type="checkbox"/>	Other <input type="checkbox"/>				
	Suspected Unapproved <input type="checkbox"/>	Large Fab <input type="checkbox"/>	Composite <input type="checkbox"/>	Supplier <input type="checkbox"/>					

Root Cause	Date	Step	Qty	Description of work order update or non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Design									
Doc/Data									
Equip/Tooling									
Handling/Pre									
Material									
Operator									
Offset/Setup									
Process									
Supplier									
Training									
Transport									
Unapproved									

FAULT CATEGORY

Landing Gear	General		
Bending	Bend <input type="checkbox"/>	Folio/Program <input type="checkbox"/>	Outside Dimensions <input type="checkbox"/>
Centre Not Concentric	BOM/Route <input type="checkbox"/>	Grain <input type="checkbox"/>	Over/Under tolerance <input type="checkbox"/>
Cracks	Broken/Damage/Defect <input type="checkbox"/>	Hardware <input type="checkbox"/>	Part Incorrect <input type="checkbox"/>
Crimp/Kink/Ripple/Wave	Burrs <input type="checkbox"/>	Inspection Incomplete/Unqualified <input type="checkbox"/>	Part Lost/Missing <input type="checkbox"/>
Cuffs	Contamination <input type="checkbox"/>	Instructions Incomplete/Unclear <input type="checkbox"/>	Part Moved <input type="checkbox"/>
Crushing	Countersink <input type="checkbox"/>	Misaligned/off center <input type="checkbox"/>	Positioned Wrong <input type="checkbox"/>
Heat Treat	Cut Too Short <input type="checkbox"/>	Mislabeled <input type="checkbox"/>	Power Loss/Surge <input type="checkbox"/>
Inspection Strip in Tube	Drawing <input type="checkbox"/>	Misread <input type="checkbox"/>	Other <input type="checkbox"/>
Marks/Chatter	Drill Holes <input type="checkbox"/>	Off-set <input type="checkbox"/>	
Turning Sequence	Finish <input type="checkbox"/>	Out of Calibration <input type="checkbox"/>	
Wave/Twist in Tube	Fit/Function <input type="checkbox"/>	Out of Sequence <input type="checkbox"/>	

Picklist Print

June-12-13 9:17:14 AM

Page 1

Work Order ID: 102947

Parent Item: D4011-5

Parent Item Name: Clamp, Short

Start Date: 6/11/13

Required Date: 6/11/13

Start Qty: 16.00

Required Qty: 16.00

Comments: IPP RevA: revB as per dwg 09.11.18 DD verified by:JLM IPP Rev:B 11.05.19 MADE IN
HOUSE DD verified by:EC

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
M304S14GA 304SS sheet .080		Purchased	No			100	sf	26.6400	0.053	0.892632		<i>Ac</i>	<i>13.06.30</i>

Location	Loc Qty	Loc Code
MAT020	26.64	
117933	4.5	
<u>119276</u>	22.14	<u>0.9</u>

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only

Work Order: _____	DISPOSITION	AGAINST DEPARTMENT/PROCESS							
Part No: _____	Rework <input type="checkbox"/>	Skid-tube <input type="checkbox"/>	Crosstube <input type="checkbox"/>	Water Jet <input type="checkbox"/>	Engineering <input type="checkbox"/>				
NCR No. _____	Scrap <input type="checkbox"/>	Machining <input type="checkbox"/>	Small Fab <input type="checkbox"/>	Prod. Eng. Coor. <input type="checkbox"/>	Quality <input type="checkbox"/>				
	Use-as-is <input type="checkbox"/>	Thermoforming <input type="checkbox"/>	Finishing <input type="checkbox"/>	Rec/Store/Packaging <input type="checkbox"/>	Other <input type="checkbox"/>				
	Suspected Unapproved <input type="checkbox"/>	Large Fab <input type="checkbox"/>	Composite <input type="checkbox"/>	Supplier <input type="checkbox"/>					

Root Cause	Date	Step	Qty	Description of work order update or non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Design									
Doc/Data									
Equip/Tooling									
Handling/Pre									
Material									
Operator									
Offset/Setup									
Process									
Supplier									
Training									
Transport									
Unapproved									

FAULT CATEGORY

Landing Gear	General							
Bending	Bend <input type="checkbox"/>	Folio/Program <input type="checkbox"/>	Outside Dimensions <input type="checkbox"/>	Pressure/Forced <input type="checkbox"/>				
Centre Not Concentric	BOM/Route <input type="checkbox"/>	Grain <input type="checkbox"/>	Over/Under tolerance <input type="checkbox"/>	Set-up <input type="checkbox"/>				
Cracks	Broken/Damage/Defect <input type="checkbox"/>	Hardware <input type="checkbox"/>	Part Incorrect <input type="checkbox"/>	Temperature/Cure <input type="checkbox"/>				
Crimp/Kink/Ripple/Wave	Burrs <input type="checkbox"/>	Inspection Incomplete/Unqualified <input type="checkbox"/>	Part Lost/Missing <input type="checkbox"/>	Weld <input type="checkbox"/>				
Cuffs	Contamination <input type="checkbox"/>	Instructions Incomplete/Unclear <input type="checkbox"/>	Part Moved <input type="checkbox"/>	Wrong Stock Pulled <input type="checkbox"/>				
Crushing	Countersink <input type="checkbox"/>	Misaligned/off center <input type="checkbox"/>	Positioned Wrong <input type="checkbox"/>					
Heat Treat	Cut Too Short <input type="checkbox"/>	Mislabeled <input type="checkbox"/>	Power Loss/Surge <input type="checkbox"/>					
Inspection Strip in Tube	Drawing <input type="checkbox"/>	Misread <input type="checkbox"/>						
Marks/Chatter	Drill Holes <input type="checkbox"/>	Off-set <input type="checkbox"/>						
Turning Sequence	Finish <input type="checkbox"/>	Out of Calibration <input type="checkbox"/>						
Wave/Twist in Tube	Fit/Function <input type="checkbox"/>	Out of Sequence <input type="checkbox"/>						

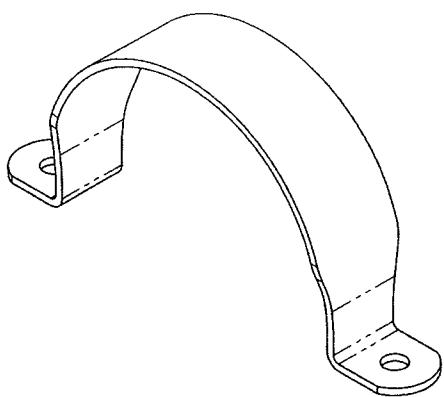
DART AEROSPACE LTD	Work Order:	102947
Description: Clamp, Short	Part Number:	D4011-5
Inspection Dwg: D4011	Rev: B	Page 1 of 1

FIRST ARTICLE INSPECTION CHECKLIST

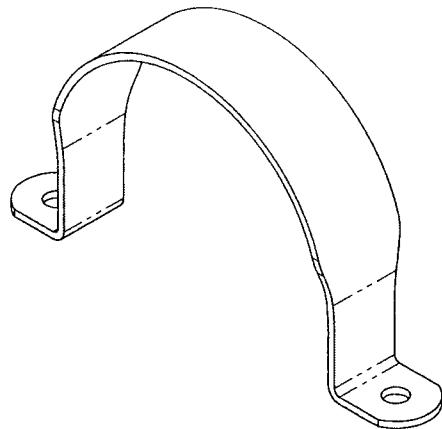
X First Article Prototype

Measured by:	<i>Ae</i>	Audited by:	09 09	Prototype Approval:	N/A
Date:	13.06.30	Date:	13.07.02	Date:	N/A

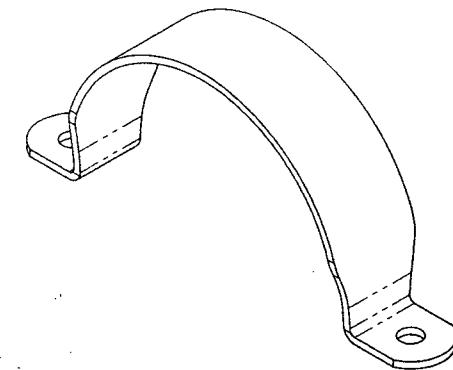
Rev	Date	Change	Revised by	Approved
A	09.12.14	New Issue	KJ	



D4011-1 CLAMP, SHORT



D4011-3 CLAMP, LONG



D4011-5 CLAMP, SHORT (OEM)

102947 MLJ
13-06-13

RELEASED
2009-11-24
MP

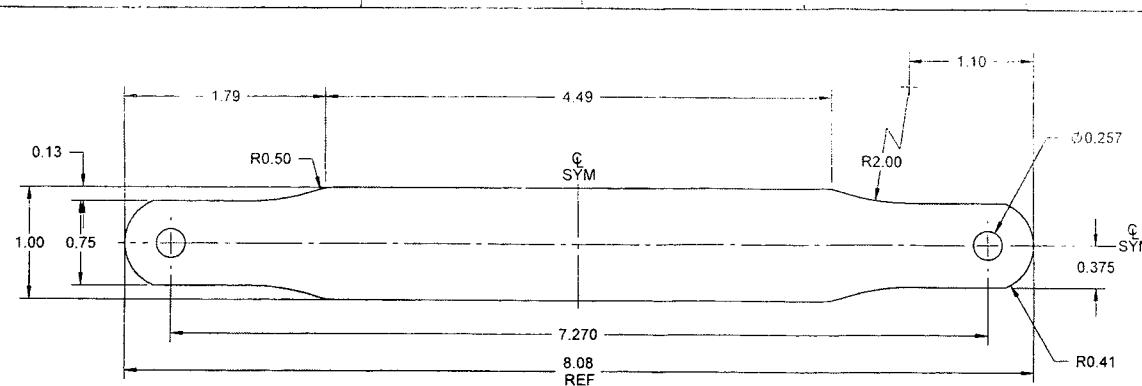
B	SHORTEN HEIGHT OF -1/3 CLAMPS BY 0.125, ADDED -5 REASON: PROVIDE MORE CLEARANCE UPON INSTALLATION ON OEM SKIDTUBES	MB	09.11.11
A	NEW ISSUE	MB	09.10.21
REV.	BY	DATE	
DESIGN	A		
DRAWN	B		
CHECKED	F-S		
MFG. APPR.	D		
APPROVED	M		
DE APPR.	N		
DATE	09.11.11	SCALE	NTS
		COPYRIGHT © 2009 BY DART AEROSPACE LTD THIS DOCUMENT IS THE PROPERTY OF DART AEROSPACE LTD. IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.	

NOTES:

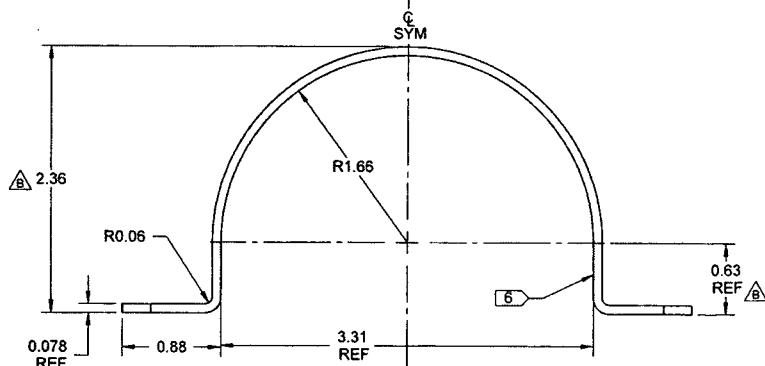
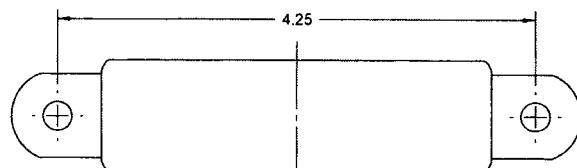
- 1) MATERIAL: AISI 304/316 STAINLESS STEEL SHEET ANNEALED 2B FINISH, 14 GAUGE (0.078 THICK) PER AMS 5513 (304) OR 5524 (316) OR ASTM A240 OR ASME SA240 REF. DART SPEC. M304S14GA
- 2) FINISH: NONE
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: IDENTIFY WITH DART P/N "D4011-X" USING FINE POINT PERMANENT INK MARKER
- 7) WEIGHT: 0.02 lbs EACH

8 7 6 5 4 3 2 1

102947



D4011-1F CLAMP, SHORT FLAT PATTERN

D4011-1 CLAMP, SHORT
(MAKE FROM D4011-1F)RELEASED
2009-11-24
MM

DESIGN	<input checked="" type="checkbox"/>	DART AEROSPACE LTD
DRAWN	<input checked="" type="checkbox"/>	HAWKESBURY, ONTARIO, CANADA
CHECKED	<input checked="" type="checkbox"/>	DRAWING NO.
MFG. APPR.	<input checked="" type="checkbox"/>	D4011
APPROVED	<input checked="" type="checkbox"/>	REV. B
DE APPR.	<input checked="" type="checkbox"/>	SHEET 2 OF 4
DATE	09.11.11	SCALE
		NTS

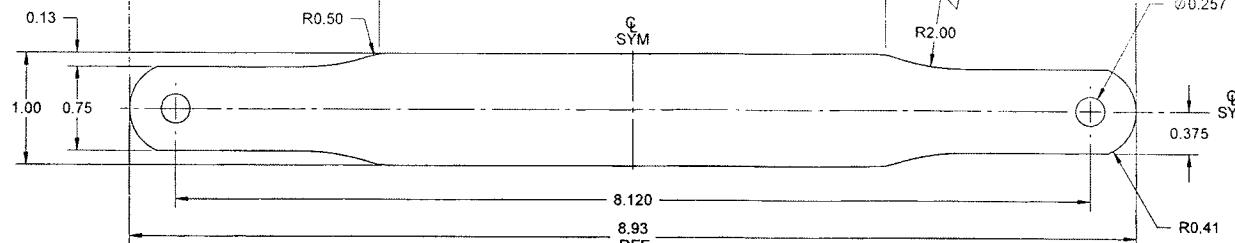
COPRIGHT © 2009 BY DART AEROSPACE LTD

THIS DOCUMENT IS THE PROPERTY OF DART AEROSPACE LTD. IT IS RESTRICTED IN THAT IT IS

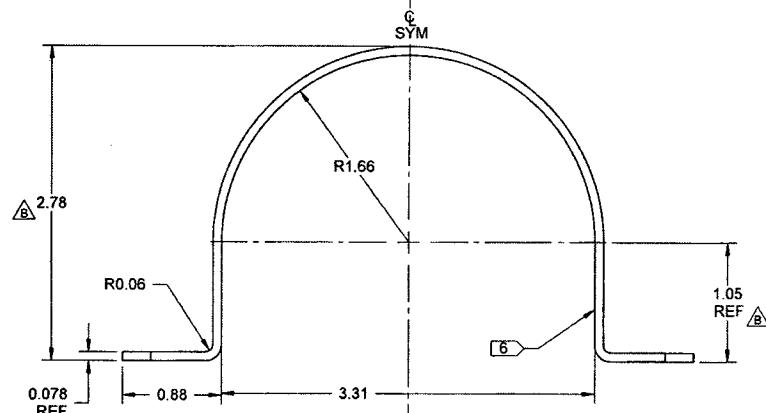
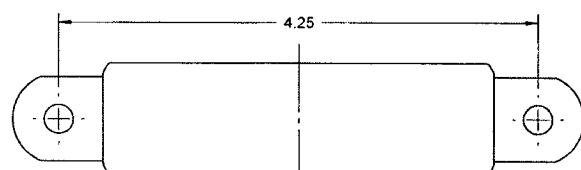
NOT TO BE COPIED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT

WRITTEN PERMISSION FROM DART AEROSPACE LTD.

102947



D4011-3F CLAMP FLAT PATTERN, LONG

D4011-3 CLAMP, LONG
(MAKE FROM D4011-3F)

RELEASED
R 2009-11-24
MP

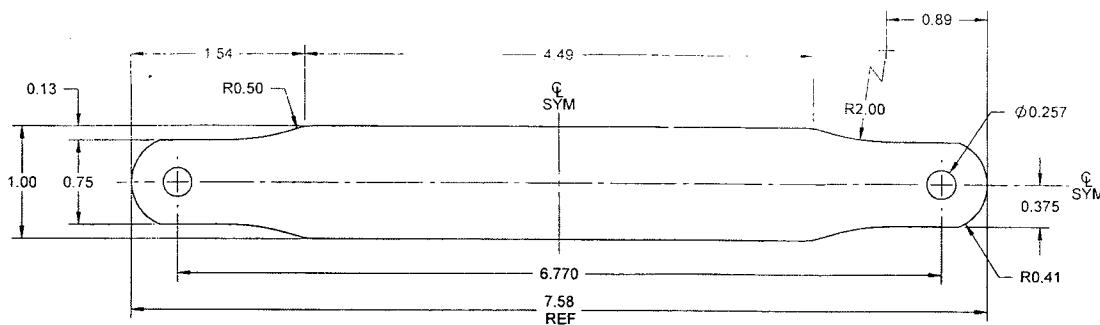
DESIGN	A	DART AEROSPACE LTD
DRAWN	B	HAWKESBURY, ONTARIO, CANADA
CHECKED	A/S	DRAWING NO.
MFG. APPR.	D	D4011
APPROVED	D	REV. B
DE APPR.	D	SHEET 3 OF 4
DATE	09.11.11	SCALE
		NTS

COPYRIGHT © 2009 BY DART AEROSPACE LTD

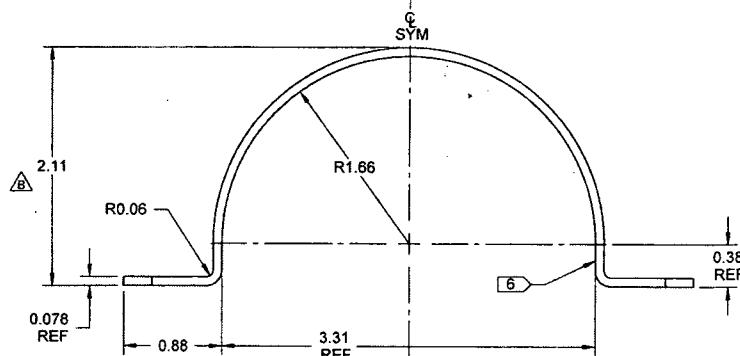
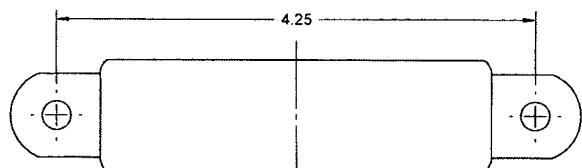
THIS DOCUMENT IS THE PROPERTY OF DART AEROSPACE LTD. IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT

WRITTEN PERMISSION FROM DART AEROSPACE LTD.

102947



D4011-5F CLAMP, SHORT (OEM) FLAT PATTERN



D4011-5 CLAMP, SHORT (OEM)
(MAKE FROM D4011-5F)

RELEASED
2009-11-24
MP

DESIGN	<u>B1</u>	DART AEROSPACE LTD		
DRAWN	<u>B</u>	HAWKESBURY, ONTARIO, CANADA		
CHECKED	<u>A/S</u>	DRAWING NO.	REV.	
MFG. APPR.	<u>DS</u>	D4011	SHEET 4 OF	
APPROVED	<u>WD</u>	TITLE	SCALE	NTS
DE APPR.	<u>SH</u>	CLAMP		
DATE	09.11.11	COPYRIGHT © 2009 BY DART AEROSPACE LTD		
THIS DOCUMENT CONTAINS TRADE SECRET INFORMATION AND MAY NOT BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT				

COPYRIGHT © 2009 BY DART AEROSPACE LTD
DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION
NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON